

Date: Wed, 5 Oct 94 04:30:30 PDT  
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>  
Errors-To: Ham-Space-Errors@UCSD.Edu  
Reply-To: Ham-Space@UCSD.Edu  
Precedence: List  
Subject: Ham-Space Digest V94 #279  
To: Ham-Space

Ham-Space Digest                      Wed, 5 Oct 94                      Volume 94 : Issue 279

Today's Topics:

                    ARLK044 Keplerian data  
                    GPS Info?  
                    Shuttle TLE Mailing List?  
                    STS-68 Orbital State Vector Rev #54

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>  
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: Tue, 04 Oct 1994 17:34:54 EDT  
From: w1aw@arrl.org  
Subject: ARLK044 Keplerian data

SB KEP @ ARL \$ARLK044  
ARLK044 Keplerian data

ZCZC SK12  
QST de W1AW  
Keplerian Bulletin 44 ARLK044  
From ARRL Headquarters  
Newington, CT October 4, 1994  
To all radio amateurs

SB KEP ARL ARLK044  
ARLK044 Keplerian data

Thanks to NASA, AMSAT and N3FKV for the following Keplerian data.

Decode 2-line elsets with the following key:

1 AAAAAU 00 0 0 BBBB.BBBBBBBB .CCCCCCC 00000-0 00000-0 0 DDDZ  
2 AAAAA EEE.EEEE FFF.FFFF GGGGGG HHH.HHHH III.IIII JJ.JJJJJJJKKKKKZ  
KEY: A-CATALOGNUM B-EPOCHTIME C-DECAY D-ELSETNUM E-INCLINATION F-RAAN  
G-ECCENTRICITY H-ARGPERIGEE I-MNANOM J-MNMOTION K-ORBITNUM Z-CHECKSUM

STS-68

1 23285U 94062A 94273.71398473 .00126891 00000-0 63979-4 0 40  
2 23285 57.0074 76.9956 0009327 267.4500 92.5492 16.19853975 52

A0-10

1 14129U 83058B 94272.49345949 -.00000206 00000-0 10000-3 0 3124  
2 14129 26.8510 305.5389 6029381 214.9865 84.0238 2.05881116 56961

RS-10/11

1 18129U 87054A 94268.02843046 .00000024 00000-0 97667-5 0 9605  
2 18129 82.9213 255.0378 0013217 103.9971 256.2651 13.72341657363606

U0-11

1 14781U 84021B 94268.00144558 .00000063 00000-0 18490-4 0 7333  
2 14781 97.7853 278.0514 0011286 316.0016 44.0298 14.69247006564960

RS-12/13

1 21089U 91007A 94271.56766864 .00000049 00000-0 35584-4 0 7336  
2 21089 82.9192 294.7832 0028994 177.7183 182.4109 13.74047129182840

A0-13

1 19216U 88051B 94268.85908553 -.00000252 00000-0 10000-4 0 9673  
2 19216 57.7254 229.1074 7234287 351.1080 0.8163 2.09723820 16623

U0-14

1 20437U 90005B 94267.73275563 -.00000025 00000-0 73156-5 0 330  
2 20437 98.5870 351.1405 0010299 260.0414 99.9603 14.29855473243814

A0-16

1 20439U 90005D 94267.78457414 -.00000009 00000-0 13585-4 0 8311  
2 20439 98.5958 352.5326 0010595 261.0681 98.9301 14.29909495243836

D0-17

1 20440U 90005E 94267.72918637 -.00000008 00000-0 13802-4 0 8328  
2 20440 98.5966 352.8356 0010733 260.0751 99.9213 14.30049404243845

W0-18

1 20441U 90005F 94271.76451361 .00000005 00000-0 18985-4 0 8350  
2 20441 98.5960 356.8130 0011169 247.9646 112.0349 14.30023688244423

L0-19

1 20442U 90005G 94270.19646934 .00000021 00000-0 24903-4 0 8309  
2 20442 98.5970 355.5485 0011476 252.3414 107.6519 14.30121238244214

F0-20

1 20480U 90013C 94267.85666911 -.00000043 00000-0 -32743-4 0 7289  
2 20480 99.0534 40.9163 0541308 113.7310 252.1529 12.83227496216915

A0-21

1 21087U 91006A 94270.45240692 .00000094 00000-0 82657-4 0 5168  
2 21087 82.9370 67.0209 0035263 157.2387 203.0290 13.74545468183639

U0-22

1 21575U 91050B 94271.75002581 -.00000008 00000-0 11919-4 0 5378  
2 21575 98.4270 344.1110 0007774 348.3894 11.7113 14.36932512167958

K0-23

1 22077U 92052B 94271.88179524 -.000000037 00000-0 10000-3 0 4308  
2 22077 66.0802 62.8714 0015417 262.7001 97.2266 12.86287673100122

K0-25

1 22830U 93061H 94270.17228034 .000000013 00000-0 22445-4 0 3341  
2 22830 98.5467 341.1307 0010700 237.2473 122.7684 14.28064200 52252

K0-25?

1 22828U 93061F 94270.24174961 .000000005 00000-0 19779-4 0 3061  
2 22828 98.6418 345.0583 0009417 258.9002 101.1119 14.28066941 20349

I0-26

1 22826U 93061D 94270.18478472 .000000002 00000-0 18795-4 0 3273  
2 22826 98.6423 344.9794 0008520 275.0739 84.9475 14.27740073 52247

A0-27

1 22825U 93061C 94267.75824516 -.000000007 00000-0 15224-4 0 3297  
2 22825 98.6459 342.5288 0008049 282.3616 77.6664 14.27634788 51892

P0-28

1 22829U 93061G 94267.72677565 .000000005 00000-0 19751-4 0 3216  
2 22829 98.6432 342.5879 0009344 267.5753 92.4353 14.28041074 51902

Mir

1 16609U 86017A 94273.34756036 .00005602 00000-0 82268-4 0 7781  
2 16609 51.6474 20.1699 0002736 77.8457 282.2842 15.57179690492401

Keplerian bulletins are transmitted twice weekly from W1AW.

The next scheduled transmission of these data will be Saturday,  
October 8, 1994, at 2230z on Baudot and AMTOR.

NNNN

/EX

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Date: 4 Oct 1994 12:34:04 -0400  
From: wdunckel1@aol.com (WDUNCKEL1)  
Subject: GPS Info?

In article <genefCx1ssC.1Bo@netcom.com>, genef@netcom.com (Gene Fornario)  
writes:

Trimble Navigation in Sunnyvale makes some very nice GPS units. They make many different models for many different uses. Some will hook up to a serial port other for backpacking etc. I own a Sony and my only complaint is the batteries are consumed very quickly. Also, how hard would it have been to add a serial port? Another function that would have been nice is one that would turn the GPS unit on at an adjustable increment to receive position, then turn off again.

Any GPS unit should have functions including waypoints, speed, altitude, direction of travel, direction to waypoints, and of course lat, lon. My Sony will give you a graphic display of the path

you traveled.

Hope some of this helps!  
Walt Dunckel (KD6VYV)

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Date: Mon, 3 Oct 1994 23:18:39 GMT  
From: garym@alsys.com (Gary Morris @ignite)  
Subject: Shuttle TLE Mailing List?

In <HALLIDAY.94Sep30195649@netcom.com> halliday@netcom.com (Mark Halliday) writes:  
>I used to get daily TLE updates on a mailing list.  
>Is this service still available? If so, please  
>send info. Thanks.

I get lots of inquiries about the mailing list. Attached is a copy of the latest (just revised today) help/info file for the Shuttle Elements Mailing List. Note that the mailing list moved to a listserver in July and everyone on the old list had to resubscribe, if you didn't, that is why you aren't getting anything.  
--GaryM

-----<cut here>-----<cut here>-----<cut here>-----

#### Shuttle Elements Mailing List Information File

##### Table of Contents (941003)

- (1) July 94 List Changes
- (2) Purpose of the Shuttle Elements Mailing List
- (3) How to subscribe and unsubscribe
- (4) How to access the elements archives
- (5) In case of problems.

##### (1) July 94 List Changes

In July 1994 the Elements Mailing List changed from a manually operated mailing list to a listserv list, subscribers on the old list were all sent a notice about the change. The old archive server is also gone, since the new listserv software also has file archive and retrieval commands. You can now subscribe, unsubscribe, change your mailing address, and access the archive all by sending requests to an automated listserver, at the "listserv@alsys.com" address. The elements-request address is no longer used to subscribe/unsubscribe to the list.

## (2) Purpose of the Shuttle Elements Mailing List

The purpose of this list is to get Space Shuttle Keplerian elements out as quickly as possible during shuttle flights. Subscribers will receive pre-launch predicted elements, rotated pre-launch elements right after launch (to compensate for launch delays), and post launch elements based on either Shuttle computer state vector data or on NORAD radar tracking data. Basically you will be getting the most up to date data I and several others can put together.

The data sent to the list will be primarily Two-Line Element Sets, but also some AMSAT format element sets, and sometimes both. If you want information about the Two-Line Element Set format, Dr TS Kelso posts a format description article to USENET newsgroups rec.radio.amateur.misc and sci.space. If you don't have access to USENET you can get a copy from the email elements archive server.

All elements sets are sent to all list subscribers as soon as they are released. If you want to get the most recent Shuttle element set sent to the list, you can retrieve it from the elements archive maintained by the listserver. Send email to the listserv address, "listserv@alsys.com", with the text of the mail containing the following command:

```
get elements last-shuttle-elset
```

For more information on the archive server, you can send the command "help" to the listserv address. The listserver has elements for many previous Shuttles and general information regarding element data.

This list is a moderated list for data distribution only, it is not a discussion list. Submissions to the list are by prior arrangement only.

Please unsubscribe from the list if you email account will be closing or update your address if it is going to change (send "help set" for more information). If we receive unknown host or user mailer error messages from your account your subscription is subject to termination without notice.

## (3) How to subscribe and unsubscribe

To subscribe to the Shuttle Elements Mailing List you send a command in an email message to "listserv@alsys.com". The command must be the first line of text in your email message and there must be nothing in the text portion of your message preceding the command. To subscribe the command is like this, except you use your name instead of John Smith:

```
subscribe elements John Smith
```

The command should be the first line of text in your mail message, nothing may precede the command (except of course the mail headers). You will get a confirmation back in the email with your password. Your password will be used in the future should you want to change your address or unsubscribe to the mailing list.

To unsubscribe from the elements list, send the following command:

```
unsubscribe elements
```

To change your email address after you have subscribed, send the following command:

```
set elements address <password> <new-address>
```

#### (4) How to access the elements archives

If you are interested in accessing files in the archives, you can send a message containing the word "help" to get the complete set of instructions. The following index commands will tell you what files are available.

```
index elements
index elements/data
index elements/info
```

The most commonly used command on the listserver is:

```
get elements last-shuttle-elset
```

#### (5) In case of problems.

First, get the help file, send the command "help" to [listserv@alsys.com](mailto:listserv@alsys.com), or if you have problems with a set command, send the command "help set" to the listserv.

If you get a message back that says your command was unrecognized, make sure the you or your mail system is not putting headers or markers in the beginning of the text part of your message. Some mailers put ----- in the beginning of the text, if yours does this you need to disable that "feature".

In you have problems with the listserv that you can't solve after reading the help files, you may write to me at [garym@alsys.com](mailto:garym@alsys.com) or call me at my number below. If you call outside normal office hours, you can leave a message on my voice mail. If you need a reply back be sure to give your

Internet address (spell it out if it's not clear) so I can reply by email,  
I do not return long distance phone calls, nor do I have time for phone tag.  
In any case, email is preferred, you will get a quicker response that way.

--

Gary Morris                    Internet: garym@alsys.com  
KK6YB                        Packet:    KK6YB @ N0ARY.#NOCAL.CA.USA.NA  
San Diego, CA, USA        Phone:     +1 619-457-2700 x128

-----  
Date: Mon, 3 Oct 1994 22:09:42 GMT  
From: astroman@netcom.com (SignalMan)  
Subject: STS-68 Orbital State Vector Rev #54

Vector format = 117  
Satellite Name:            STS-68  
Catalog Number:           23285    94062A  
Epoch Date/Time:         94276.79440543981  
                             10/03/1994    19:03:56.630 UTC  
EFG E:                     -7064770.32 ft  
      F:                    19082549.38 ft  
      G:                    -7358058.37 ft  
      Edot:                 -14916.1528 ft/s  
      Fdot:                 2025.4518 ft/s  
      Gdot:                 19563.8739 ft/s  
ndot/2 (drag):             0.00176167675 rev/day^2  
nddt/6:                    1.27630E-07 rev/day^3  
Bstar:                     8.20883E-05 1/Earth Radii  
Elset #:                        8  
Rev @ Epoch:                54.93352456212

MSDOS/PC software is available for conversion of  
OSV to 2 Line Keplerian Elements via ftp to:  
oak.oakland.edu:/pub/msdos/hamradio/v219331.zip  
and the SIMTEL archives.

State Vectors courtesy Ken Ernandes N2WWD

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End of Ham-Space Digest V94 #279

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